

Louisville Metro Air Pollution Control District
850 Barret Ave., Louisville, Kentucky 40204
15 July 2009

Title V Statement of Basis

Company: Veterans Administration Medical Center

Plant Location: 800 Zorn Avenue, Louisville, Kentucky 40206-1499

Date Application Received: 14 June 2004

Date Admin Complete: 16 August 2004

Date of Draft Permit: 25 March 2009

Date of Proposed Permit: 28 April 2009

District Engineer: Bob Wesely

Permit No: 93-97-TV (R1)

Plant ID: 853

SIC Code: 8062

NAICS: 62211

AFS: 00853

Introduction:

This permit will be issued pursuant to: (1) Regulation 2.16, (2) Title 40 of the Code of Federal Regulations Part 70, and (3) Title V of the Clean Air Act Amendments of 1990. Its purpose is to identify and consolidate existing District and Federal air requirements and to provide methods of determining continued compliance with these requirements.

Jefferson County is classified as an attainment area for lead (Pb), sulfur dioxide (SO₂), nitrogen dioxide (NO₂), carbon monoxide (CO), 1 hr and 8 hr ozone (O₃), and particulate matter less than 10 microns (PM₁₀); and is a non-attainment area for particulate matter less than 2.5 microns (PM_{2.5}).

Application Type/Permit Activity:

☐ Initial Issuance

☐ Permit Revision

☐ Administrative

☐ Minor

☐ Significant

☒ Permit Renewal

Compliance Summary:

☒ Compliance certification signed

☐ Compliance schedule included

☐ Source is out of compliance

☒ Source is operating in compliance

I. Source Information

1. **Product Description:** Hospital
2. **Process Description:** Veterans Administration Medical Center provides medical services for active and discharged military personnel.
3. **Site Determination:** There are no other facilities that are contiguous or adjacent and under common control.
4. **Emission Unit Summary:**

Emission Unit	Equipment Description
U1	Three (3) steam heating boilers (natural gas)
U3	One (1) nonhalogenated cold solvent parts cleaner

5. **Fugitive Sources:** There are fugitive SO₂, PM, and Opacity emissions from the boilers.
6. **Permit Revisions:**

Revision No.	Issue Date	Public Notice Date	Type	Attachment No./Page No.	Description
N/A	12/12/1999	10/17/1999	Initial	Entire Permit	Initial Permit Issuance
R1	07/15/2009	03/25/2009	Renewal	Entire Permit	5 year renewal, Include parts washer emission point, Corrected PM standard, RO change

7. Emission Summary:

Pollutant	Actual Emissions (tpy) 2007 Data	Pollutant that triggered Major Source Status (based on PTE)
CO	2.82	No
NO_x	3.39	No
SO₂	0.03	Yes
PM	NA	No
PM10	NA	No
PM2.5	NA	No
VOC	NA	No
Single HAP	NA	No
Total HAPs	NA	No

Note: SO₂ becomes the major source status pollutant when No. 2 fuel oil is used as the alternate fuel source in the boilers.

8. Applicable Requirements:

☐ PSD ☐ NSPS ☒ SIP ☐ MACT
☐ NSR ☐ NESHAPS ☒ District-Origin ☐ Other

9. Future MACT Requirements: The source is not a major source for HAPs.

10. Referenced Federal Regulations in Permit: NA

II. Regulatory Analysis

1. Acid Rain Requirements: The source is not subject to the Acid Rain Program.

2. Stratospheric Ozone Protection Requirements: Title VI of the CAAA regulates ozone depleting substances and requires a phase-out of their use. This rule applies

to any facility that manufactures, sells, distributes, or otherwise uses any of the listed chemicals. This source does not manufacture, sell, or distribute any of the listed chemicals. The source's use of listed chemicals is that in fire extinguishers, chillers, air conditioners and other HVAC equipment.

3. **Prevention of Accidental Releases 112(r):** The source does not manufacture, process, use, store, or otherwise handle one or more of the regulated substances listed in 40 CFR Part 68, Subpart F, and District Regulation 5.15, *Chemical Accident Prevention Provisions*, in a quantity in excess of the corresponding specified threshold amount.
4. **40 CFR Part 64 Applicability Determination:** Veterans Administration Medical Center is not subject to 40 CFR Part 64 - *Compliance Assurance Monitoring for Major Stationary Sources*, since the company cannot exceed the pollutant standards for an affected facility.
5. Basis of Regulation Applicability

a. Plant-wide

Veterans Administration Medical Center is a major source for SO₂ when combusting the alternate fuel source of No. 2 fuel oil. Regulation 2.16 - *Title V Operating Permits* establishes requirements for major sources.

The source is subject to a SO₂ standard of less than 1 lb/mmmbtu and a PM standard of less than 0.44 lb/mmmbtu for each affected source, during the combustion of the normal fuel source, natural gas, or the alternate fuel source, #2 fuel oil, per Regulation 7.08 - *Standards of Performance for New Indirect Heat Exchangers*.

Regulations 5.01, 5.21, and 5.23 (STAR Program) establishes requirements for environmental acceptability of toxic air contaminants (TACs) and the requirement to comply with all applicable emission standards. Veterans Administration Medical Center submitted their Category 1 TACs Environmental Acceptability Demonstration additional emissions information to the District on August 30, 2007. LMAPCD has approved the VA Medical Center EA Demonstration for Category I TACs, based on the results of the modeling which demonstrated that all Category 1 TACs were below the individual and cumulative Rc, or Risk, (in units of risk in one million) for each specific TAC.

Based on Tier 3 (Screen 3) modeling , the Risk of Cancer was determined to be under the requirement for environmental acceptability.

The owner or operator shall not allow any TAC emissions to exceed environmentally acceptable levels whether specifically established by modeling or derived from default de minimis levels provided by the District. The owner or operator shall not increase the TAC content in raw material or substitute any raw materials or additional TACs for those identified in the initial permit application for this process or equipment that would result in an increase in the quantity of a TAC without prior notification to, and approval by, the District. (Regulation 5.01, section 3)

b. Emission Unit U1 - Three (3) steam heating boilers

i. Equipment:

P/PE	Capacity	Installation Date	Applicable Regulation	Basis for Applicability
Three (3) boilers	28.9 mmbtu/hr (each)	1950	7.06	Boilers with heat generating capacities greater than 1 mmbtu/hr, modified after April 9,1972, are subject to Regulation 7.06 for PM and SO ₂ .
			5.01	Regulation 5.01 establishes the requirements for Environmental Acceptability for TACs. Group I company with Category 1 TACs, which could exceed the de minimis values.

ii. Standards/Operating Limits

a) SO₂

Regulation 7.06, section 5.1.1, requires an indirect heat exchanger combusting gaseous or liquid fuels, shall not discharge into the atmosphere from the affected facility, any gases which contain SO₂ in excess of 1.0 lb/mmbtu of heat input for gaseous or liquid fuels.

b) PM

Regulation 7.06, section 4.1.3, requires an indirect heat exchanger combusting gaseous or liquid fuels, shall not discharge into the atmosphere from the affected facility, any gases which contain PM in excess of 0.44 lb/mmbtu of heat input for gaseous or liquid fuels.

1. The PM standard is calculated by the formula shown below from Regulation 7.06, section 4.1.3, for indirect heat exchangers with a rated heat input capacity of more than 10 mmbtu/hr and less than 250 mmbtu/hr, installed prior to April, 1982:

$$\text{PM lb/mmbtu} = 0.9634(\text{heat input capacity mmbtu/hr})^{-0.2356}$$

c) Opacity

Regulation 7.06, section 4.2, requires an indirect heat exchanger combusting gaseous or liquid fuels, shall not discharge into the atmosphere from the facility, any gases which exhibit greater than 20% opacity except:

1. For indirect heat exchangers with a heat input capacity of less than 250 mmbtu/hr, a maximum of 40% opacity shall be permissible for not more than two (2) consecutive minutes in any sixty (60) consecutive minutes.
2. For indirect heat exchangers with heat input capacity of less than 250 mmbtu/hr, a maximum of 40% opacity shall be permissible for not more than six (6) consecutive minutes during cleaning the fire box or blowing soot.
3. For emissions from an indirect heat exchanger during building a new fire for the period required to bring the boiler up to operating conditions, provided the method used is that recommended by the manufacturer and the time does not exceed the manufacturer's recommendations.

iii. Monitoring**a) SO₂**

Monthly records shall be maintained as required by Record Keeping, Section iv.a) for the indirect heat exchangers to document actual emissions for reporting on annual emissions inventory.

b) PM

Monthly records shall be maintained as required by Record Keeping, Section iv.b, for the indirect heat exchangers to document actual emissions for reporting on annual emissions inventory.

c) Opacity

1. No visible emissions surveys or Method 9 tests are required to be conducted when boilers are combusting natural gas.
2. Weekly six-minute visible emissions surveys are required when boilers are combusting No. 2 fuel oil. If visible emissions are observed, Method 9 visible emission test shall conducted pursuant to 40 CFR 60, Appendix A. All tests shall be conducted during normal daytime operation of boilers.

iv. Record Keeping**a) SO₂**

Monthly records of the amount, type, and sulfur content of the fuel combusted in each of the indirect heat exchangers, when the equipment is operated, shall be maintained to demonstrate ongoing compliance with the SO₂ emission standard.

b) PM

Monthly records of the amount and type of the fuel combusted in each of the indirect heat exchangers, when the

equipment is operated, shall be maintained to demonstrate ongoing compliance with the PM emission standard.

c) Opacity

Records of all visible emissions surveys and tests results shall be maintained. Records shall include the date and time of the survey, name of person conducting the survey, whether or not visible emissions were observed, and what if any corrective action was performed.

d) TAC

Maintain records of the MSDS for each raw material

v. Reporting

Semi-annual compliance reports that include the information listed below shall be submitted as required by Regulation 2.16, section 4.1.9.3, to assure ongoing compliance with the terms and conditions of the permit.

a) SO₂

A one time Compliance Demonstration was performed on February 4, 2009, and the “Affected Facility” can not exceed the Regulations 7.06 standards for the pollutants NO_x, SO₂, and PM.

b) PM

A one time Compliance Demonstration was performed on February 4, 2009, and the “Affected Facility” can not exceed the Regulations 7.06 standards for the pollutants NO_x, SO₂, and PM.

c) Opacity

In addition to the items reported in section 5.b.v.a), the additional data detailed below shall be included in the semi-annual reports.

1. Date, time and results of each Method 9 that exceeded the opacity standards.
2. Number of surveys that visible emissions were observed.
3. Description of corrective action taken for the exceedance.

c. Emission Unit U2 - One (1) cold solvent parts cleaner

i. Equipment:

P/PE	Capacity	Installation Date	Applicable Regulation	Basis for Applicability
One (1) cold solvent parts washer	5 gallons	1974	6.18	Cold solvent parts washers are subject to Regulation 6.18, which provides the requirements for the equipment and the operation of the equipment.

ii. Standards/Operating Limits

VOC

Regulation 6.18, section 4.1 and section 4.2 establish the equipment requirements and the operating requirements for cold solvent metal parts cleaners that shall be adhered to ensure compliance with the permit.

iii. Monitoring

VOC

Regulation 2.16, section 4.1.9.1, establishes monitoring requirements to assure ongoing compliance with the terms and conditions of the permit. Refer to Record Keeping, Section 6.c.iv

iv. Record Keeping

VOC

- a) Regulation 6.18, 4.4.2, requires maintaining records that include the following for each purchase of cold solvent for the parts washer.
 - 1. Name and address of the solvent supplier.
 - 2. Date of purchase.
 - 3. Type of solvent.
 - 4. Vapor pressure of the solvent measured in mm Hg at 20°C (68°F).
- b) Regulation 6.18, section 4.4.3, requires all records shall be maintained for five (5) years and made available to District upon request.

v. **Reporting**

VOC

There are no routine reporting requirements for Regulation 6.18.

III. Other Requirements

- 1. **Temporary Sources:** The source did not request to operate any temporary facilities.
- 2. **Short Term Activities:** The source did not report any short term activities.
- 3. **Emissions Trading:** N/A
- 4. **Alternative Operating Scenarios:** The source is allowed to operate Emissions Unit U1 under the following alternative operating scenarios:
 - Scenario A - Two (2) boilers operating and one (1) boiler backup, 100% natural gas
 - Scenario B - Two (2) boilers operating and one (1) boiler backup, 100% #2 fuel oil
 - Scenario C - One (1) boiler operating and two (2) boilers backup, 100% natural gas
 - Scenario D - One (1) boiler operating and two (2) boilers backup, 100% #2 fuel oil
- 5. **Compliance Status:** Veterans Administration Medical Center is required to submit their annual Compliance Certification to the District on or before April 15th of each

calendar year. As of the effective date of Permit 93-97-TV (R1), there are no compliance schedules in effect or progress reports required.

- 6. Emission Factors:** The following emission factors shall be used unless more accurate District approved emission factors become available.

Equipment	Fuel	Emission Factor	EF Source
Boilers	Natural Gas	0.6 lb SO ₂ /mmscf 7.6 lb PM/mmscf	AP-42 Table 1.4-2
Boilers	Fuel Oil	142S lb SO ₂ /10 ³ gal 2 lb PM/10 ³ gal	AP-42 Table 1.3-1

Note: Unless shown otherwise, S = 0.5% for No. 2 fuel oil

7. Insignificant Activities

Equipment	Quantity	Basis of Exemption
Diesel Fuel Storage Tank, 250 gallon, vapor pressure less than 10mm Hg at 20°C and 760 mm Hg	3	District Regulation 2.02, section 2.3.24 & 2.3.9.2
Portable 250 gallon diesel fuel storage tank, vapor pressure less than 10 mm Hg at 20°C and 760 mm Hg	1	District Regulation 2.02, section 2.3.24 & 2.3.9.2
Laundry Operation, no separate lint collectors, U4	1	No regulatory emissions.
Ethylene Oxide Sterilization Chamber, abator integral part of the process, no HAP or TAP emissions, U5	2	No regulatory emissions.
Ventilation system - Bakeries & Restaurants	2	District Regulation 2.02, section 2.3.12
Lab Ventilating & Exhausting Systems, non-radioactive materials	4	District Regulation 2.02, section 2.3.1
Emergency Relief Vents or Ventilating Systems	Various	District Regulation 2.02, section 2.3.12
Brazing, Soldering or Welding Equipment	3	District Regulation 2.02, section 2.3.4
Internal Combustion Engines, Fixed or Mobile	2	District Regulation 2.02, section 2.2

Research & Development (R&D) Activities, potential emissions less than 5 tons per year	3	District Regulation 2.02, section 2.3.27
Fuel Oil Storage Tanks, installed prior to July 23, 1984, 20,000 gallon aboveground, vapor pressure less than 10 mm Hg at 20°C and 760 mm Hg, U2	2	District Regulation 2.02, section 2.3.9.2 and District Regulation 7.02, section 1
Fuel Oil Storage Tanks, installed prior to July 23, 1984, 8,000 gallon underground, vapor pressure less than 10 mm Hg at 20°C and 760 mm Hg, U2	2	District Regulation 2.02, section 2.3.9.2 and District Regulation 7.02, section 1

- a. Insignificant Activities are only those activities or processes falling into the general categories defined in District Regulation 2.02, Section 2, and not associated with a specific operation or process for which there is a specific regulation. Equipment associated with a specific operation or process (Emission Unit) shall be listed with the specific process even though there may be no applicable requirements. Information contained in the permit and permit summary shall clearly indicate that those items identified with negligible emissions have no applicable requirements.
- b. Activities identified In District Regulation 2.02, Section 2, may not require a permit and may be insignificant with regard to application disclosure requirements but may still have generally applicable requirements that continue to apply to the source.
 - i. No facility, having been designated as an insignificant activity, shall be exempt from any generally applicable requirement which shall include a 20% opacity limit for facilities not otherwise regulated.
 - ii. No visible emission surveys or other monitoring shall be required for facilities designated as insignificant activities.
- c. The Insignificant Activities table is correct as of the date the permit was proposed for review by the USEPA, Region 4. The company shall submit an updated list of insignificant activities annually with the Title V compliance certification pursuant to District Regulation 2.16, section 4.3.5.3.6.